



ANNUAL WATER QUALITY REPORT

WATER TESTING
PERFORMED IN 2015

Presented By
Marietta Water



Meeting the Challenge

Marietta Water proudly presents our annual water quality report, covering all drinking water testing performed between January 1 and December 31, 2015. After reading it, we hope you will better understand where your water comes from and how the water is protected, treated, and tested before you drink it. You will find that Marietta Water delivers water to you that exceeds federal drinking water standards established by the U.S. EPA. Water is important to all of us--its availability, its quality, and its use. Marietta Water is committed to providing our consumers with high-quality water and excellent customer service.

Please remember that we are always available to assist you, should you ever have any questions or concerns about your water.

Sincerely,
Tim Marshall



Environmental Compliance Coordinator

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Where Does My Water Come From?

Marietta Water purchases water from the Cobb County-Marietta Water Authority (CCMWA), a public utility founded in 1951. The CCMWA treatment facilities are supplied from two separate surface water sources. The James E. Quarles Treatment Facility, built in 1953, withdraws water from the Chattahoochee River. The Quarles plant can treat a maximum of 86 million gallons of water a day. This water is distributed and used on the eastern side of Cobb County and Marietta. The Hugh A. Wyckoff Treatment Facility, put online in 1972, withdraws water from Lake Allatoona. Lake Allatoona is a Corps of Engineers impoundment in north Cobb, south Cherokee, and south Bartow counties. This man-made, multiuse lake is part of the Etowah River Basin. The Wyckoff plant can treat a maximum of 72 million gallons of water a day. This water is distributed and used on the north and west side of Cobb County and Marietta (<http://www.ccmwa.org/>).



Failure in Flint

The national news coverage of water conditions in Flint, Michigan, has created a great deal of confusion and consternation over the past year. The water there has been described as being corrosive; images of corroded batteries and warning labels on bottles of acids come to mind. But is corrosive water bad?

Corrosive water can be defined as a condition of water quality that will dissolve metals (iron, lead, copper, etc.) from metallic plumbing at an excessive rate. There are a few contributing factors but, generally speaking, corrosive water has a pH of less than 7; the lower the pH, the more acidic, or corrosive, the water becomes. (By this definition, many natural waterways throughout the country can be described as corrosive.) While all plumbing will be somewhat affected over time by the water it carries, corrosive water will damage plumbing much more rapidly than water with low corrosivity.

By itself, corrosive water is not a health concern; your morning glass of orange juice is considerably more corrosive than the typical lake or river. What is of concern is that exposure to drinking water with elevated levels of the dissolved metals increases adverse health risks. And there lies the problem.

Public water systems are required to maintain their water at optimal conditions to prevent it from reaching corrosive levels. Rest assured that we routinely monitor our water to make sure that what happened in Flint never happens here. For more information on Marietta Water's corrosion prevention and monitoring go to: https://www.mariettaga.gov/City/media/Docs/PowerWater/Water_Lead_Info.pdf.

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly-used filtration methods cannot guarantee 100 percent removal. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. The monitoring of our source water performed in 2013 had no detection of *Cryptosporidium*. Testing was only required for a period of nine months in 2013.

Community Participation

Marietta Water operates under the supervision of the Board of Lights and Water (BLW). The BLW was created through the State Legislature. There are seven Board Members, including: The Mayor (as Chair), a City Council Member (appointed by the Mayor), and five other members of the community (appointed by the City Council.)

The board meets the Monday before the second Wednesday of each month. Marietta Water maintains regular operating hours of Monday through Friday, 7:00 a.m. to 4:00 p.m. To reach the service and maintenance department 24 hours a day, please call (770) 794-5230.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Tim Marshall, Environmental Compliance Coordinator, at (770) 794-5229.

Source Water Assessment

The CCMWA and the Atlanta Regional Commission completed a source water assessment itemizing potential sources of water pollution to our surface drinking water supplies. This information can help you understand the potential for contamination of your drinking water supplies and can be used to prioritize the need for protecting drinking water sources.

A source water assessment is a study and report that provides the following information: identifies the area of land that contributes the raw water used for drinking water; identifies potential sources of contamination to drinking water supplies; and provides an understanding of the drinking water supply's susceptibility to contamination.

Individual source pollution involves actual facilities, which have contaminants on site that can pose a potential health risk if humans consume those contaminants. Nonpoint source pollution is caused by development and by everyday activities that take place in residential, commercial and rural areas; nonpoint source pollution is carried by rainfall to streams and lakes. After evaluating these sources of pollution, the report found the Chattahoochee watershed susceptibility ranking to be high and the Lake Allatoona watershed susceptibility ranking to be medium.

For more information on this project, you can request information by mail from the Environmental Planning Division, Atlanta Regional Commission, 40 Courtland Street NE, Atlanta, GA 30303.

Lead in Home Plumbing

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at www.epa.gov/lead.

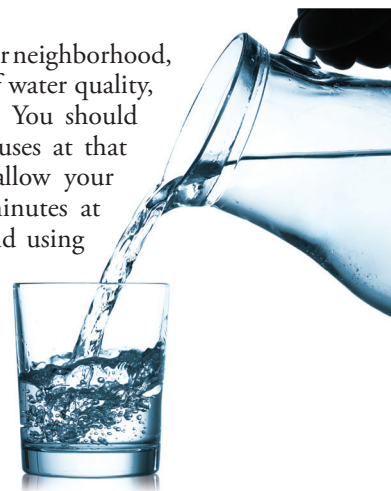
Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.



Sampling Results

During the past year, we have taken many water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

Marietta Water participated in the 3rd stage of the EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chlorine (ppm)	2015	[4]	[4]	2.09	0.04–2.09	No	Water additive used to control microbes.
Chlorite (ppm)	2015	1.0	0.8	0.27	0.01–0.27	No	By-product of drinking water disinfection.
Fluoride (ppm)	2015	4	4	0.94	0.63–0.94	No	Erosion of natural deposits; Water additive which promotes strong teeth.
Haloacetic Acids [HAA]–Stage 1¹ (ppb)	2013	60	0	27.0	21.5–46.7	No	By-products of drinking water disinfection.
Haloacetic Acids [HAA]–Stage 2² (ppb)	2015	60	0	26.7	16.8–43	No	By-products of drinking water disinfection.
Nitrate³ (ppm)	2015	10	10	1.2	ND–1.2	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
TTHMs [Total Trihalomethanes] –Stage 1¹ (ppb)	2013	80	0	36.0	26.0–50.8	No	By-products of drinking water disinfection.
TTHMs [Total Trihalomethanes] –Stage 2² (ppb)	2015	80	0	54.2	27.6–66.4	No	By-products of drinking water disinfection.
Total Organic Carbon (ppm)	2015	TT	NA	2.2	1.1–2.2	No	Naturally present in the environment; Decay of organic matter in the water withdrawn from sources such as lakes and streams.
Turbidity⁴ (NTU)	2015	TT	0	0.21	ND–0.21	No	Soil runoff.
Turbidity (Lowest monthly percent of samples meeting limit)	2015	TT = 95% of samples < 0.3 NTU	0	100	NA	No	Soil runoff.

Tap water samples were collected for lead and copper analyses from sample sites throughout the community⁵

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2014	1.3	0	0.046	0/50	No	Corrosion of household plumbing systems; Erosion of natural deposits.
Lead (ppb)	2014	15	0	3.3	2/50	No	Corrosion of household plumbing systems; Erosion of natural deposits.

UNREGULATED CONTAMINANT MONITORING RULE PART 3 (UCMR3)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Chlorate (ppb)	2013	368.563	229.409–368.563	By-product of drinking water disinfection.
Chromium-6 (ppb)	2013	0.090	0.041–0.090	Naturally occurring in the environment.
Strontium (ppb)	2013	36.6029	28.3200–36.6029	Naturally occurring in the environment.

¹ The highest detected RAA (Running Annual Average).

² The highest detected LRAA (Locational Running Annual Average).

³ Nitrate and Nitrite are measured together.

⁴ Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants.

⁵ The next round of sampling is due in 2017.

Definitions

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.